AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0003] with the following amended paragraph:

[0003] Prior art RF connectors typically comprise a metallic coaxial connector [[body]] assembly, one end of which mates with a coaxial connector. The other end of the connector [[body]] usually includes a flange, which may be placed in abutment against a side of the planar circuit. A single signal conducting pin extends coaxially through the connector body and has one end thereof formed to electrically connect the conducting pin to a center pin in a coaxial connector. The other end of the conducting pin extends outwardly from the flange of the connector body to electrically connect to a planar conductor, which runs near the side of the planar circuit structure. A single signal pin extends coaxially through the connector body and has one end thereof formed to electrically connect the signal pin to the center pin in the coaxial connector.

Please replace paragraph [0007] with the following paragraph:

[0007] A cross-sectional view of the prior art connector is illustrated in FIG. 2. ~~The connector comprises a body 1.~~ The outer cylindrical annular portion 5 <u>of the body 1 of the connector</u> may include an internally threaded cover 4 that is free to rotate relative to the remainder of the body to rigidly join the RF connector to a complementary male connector (not shown). The prior art connector has only one signal pin extending from the flange 7. One end of the connector can accommodate a fiber and the other end of the connector may be mounted to a case having a chip carrier.

Please replace paragraphs [0046]-[0057] with the following paragraphs:

[0046] FIG. [[Fig.]] 4A a first side view of the RF connector assembly 100 according to an embodiment of the present invention. As shown in FIG. 4A, similar to the prior art connector, one end of the connector accommodates a fiber;[[,]] the other end, however, includes a flange portion 107 having a plurality of pins 111 in, for example, ~~multiple-pin coplanar configuration, such as~~ a three-pin coplanar configuration, and a cavity 108A. The cavity 108A is preferable for receiving a chip carrier 108, which will be discussed in more detail. The outer cylindrical annular [[body]] portion 105 of the body 101 [[5]] may include an internally threaded cover 104 that is free to rotate relative to the remainder of the outer body 101 to rigidly join the RF connector 100 to a complementary connector (not shown). The physical details of the complementary connector are well known and thus will not be discussed in this application.

[0047] In FIG. 4B, only one metallic center contact 11 of the prior art connector extends from the flange portion. In contrast, the connector assembly 100 of the present invention comprises a connector body 101 having a ground-signal-ground (3) pin configuration and a chip carrier insert (a cavity) for accommodating a chip carrier (not shown). A significant benefit of the ground-signal-ground pin configuration is that it provides a constant AC return path and ensures signal integrity at high frequencies such as at 50 GHz.

[0048] FIG. [[Fig.]] 5 is a second side view of the RF connector assembly 100 shown in FIG. 4A. Here, the second side view is 90 degrees rotated in the azimuthal direction from the first side view of FIG. [[Fig.]] 4A. As shown in FIG. 5, the chip carrier 108 having a chip 112 is positioned in the cavity 108A of the flange 107. The cavity 108A may be made deep enough to receive the chip carrier 108 so that the chip carrier is substantially flush with the surface of the flange 107. When the chip carrier 108 is placed in the cavity 108A, the three pins [[11]] are soldered to the appropriate contacts of the chip carrier 108. As shown in FIG. [[Fig.]] 5, the

conductive line or trace on the chip carrier 108 that contacts the signal pin 111a of the RF connector is also coplanar. The line may be bent to contact the chip 112 in the chip carrier 108.

[0049] An important benefit to placing the chip carrier directly on the flange of the RF connector is the significant reduction in the length of the signal path from the RF connector signal pin 111a to the device or chip 112 in the chip carrier 108. The design of the present invention can control the length of the signal path to be as short as less than 40 mils or as long as in the prior art, if desired. Thus, the present invention allows for the signal path length to be less than 500 mils, 400 mils, 300 mils, 200 mils, 100 mils, or 40 mils. The shorter the signal path length, the better the signal.

[0050] Referring to FIG. [[Fig.]] 5, the flange portion 107 is shown with a plurality of screws 106 for screw mounting the connector to a printed circuit board (PCB not shown) through a plurality of holes 109. Alternatively, the flange 107 can be mounted to a case by several other ways including surface mount solder, through-hole solder, conductive epoxy or press-fit feet. The chip 112 may include a compound semiconductor device or an optical driver. Such devices include, for example, a photodetector (PD), a PIN diode and a transimpedance amplifier (TIA). The coplanar signal pin 111a may be bent depending on the type of case used for mounting.

[0051] Also, the body 101 may be selectively plated so that inner and outer surfaces of the outer cylindrical annular portion 105 and the entire outer surface of the flange 107 are plated with an electrically conductive material such as electroless copper/nickel.

[0052] The outer cylindrical annular portion 105 can be provided with a plurality of threads 110 or other types of RF mating for connection to a threaded coaxial ground contact sleeve of the coaxial cable (not shown). Alternatively, the outer cylindrical annular portion 105 can include two or more outward facing plated studs (not shown) to effect mechanical and electrical contact between the body 101 and mating connector. For example, the inner

cylindrical portion 103 of the body is left un-plated and a metallic center contact 111a is press-fit therein. The ground pins and the signal pin may be formed with the same material as the prior art metallic center contact. Selective plating of the body 101 provides a conductive ground, which is electrically isolated from the other conductors.

[0053] The front view of the 4-hole flange is shown in FIG. 6A. The three coplanar pins 111 are provided in the inner cylindrical portion 103. The dimensions of the chip carrier housing conform to the component size and chip. The typical values for W_f and L_f may be similar to the prior art. The values for W_c and L_c of the chip carrier of this embodiment may be 150 mils each.

[0054] The front view of a 2-hole flange is shown in FIG. 6B. The three coplanar pins 111 are provided in the inner cylindrical portion 103. The dimensions of the chip carrier housing conform to the component size and chip. The typical values for ~~W_{1f}, W_{2f}~~ W_{1f}, W_{2f}, and L_f may be similar to the prior art. The values for W_c and L_c of the chip carrier of this embodiment may be 150 mils each.

[0055] Another view of the 4-hole flange having the cavity without the chip carrier mounted is illustrated in FIG. 6C. The typical values for W_f and L_f are 340 and 500 mils, respectively, and the typical values for W_c and L_c are 150 mils each.

[0056] With reference to FIG. 7, a longitudinal cross-sectional top view of the connector assembly is shown comprising a one-piece molded body 120 [[3]] of dielectric tubular material such as Teflon, centered along an axis, and surrounding the coplanar signal pin, which is mounted within the connector body 101. A flange portion 107, approximately 500 mils in length, extends from a distal end of outer cylindrical annular portion 105, approximately 320 mils in length. A cavity 108A, approximately 150 mils wide for example, is provided for the chip carrier and the three-pin configuration. A support member 113 is preferably provided to prevent the signal pin from moving inside the connector body 101 since there is air surrounding

the signal pin 111a. The diameter of the opening 112 is approximately 94 mils. The typical values as discussed are shown in FIG. 7.

[0057] In FIG. 8, a top-view of the chip carrier having a chip is illustrated. A plurality of capacitors and thin film resistors (approximately 100 Ω, for example) are formed on the substrate of the chip carrier 108. The chip 112 is provided in a recess 130 [[13]] about 10 mils deep. The chip carrier 108 can be made of a ceramic substrate. The substrate can be made to a thickness of about 40 mils. The values for "w" and "g" in FIG. [[Fig.]] 8 are typically 28 and 8 mils, respectively. The diameter of the hole 103 is approximately 60 mils. The values of Wc and Lc are typically 150 mils each.